In the Claims:

1) (Currently amended) [The] A method of watermarking a digital image to embed a watermark specified by a watermark multi-bit payload tile, said image formed by an array of bits, said array of bits covering a plurality of payload tile sized areas, said method comprising: [the steps of]

    dividing said image into secondary control areas, each secondary control area covering a portion of said image where a [characteristic] tonal density of said image falls within a particular range, each secondary control area having an associated secondary control value, and

    changing the value of the bits in each payload tile sized area of said image based upon both the value of the corresponding bit in said payload tile and the value of the secondary control value associated with the secondary control area in which the bit resides.

2) (Currently amended) The method recited in claim [10] 1 wherein said [characteristic] tonal density of said image [is the] corresponds to width of lines in a secondary control area of said image.

3) (Currently amended) The method recited in claim [10] 1 wherein said secondary control value [is the] comprises intensity of said watermark.

4) (Currently amended) A system for watermarking a line art image comprising:

    means for determining areas of said image having lines within specific size ranges and for associating intensity values of a watermark for the areas that maximizes watermark energy for a desired perceptibility of the watermark for the areas based on the specified size ranges for the areas, and

    means for applying a watermark to said image, the intensity of said watermark in each area being established at [a selected value] the associated intensity value for the area.

5) (Currently amended) The [the] system recited in claim 4 wherein said [watermarking] means for applying a watermark applies a watermark by modulating the size of said lines.

6) (Original) The system in claim 4 wherein said means for determining utilizes filtering.

7) (Currently amended) A method of applying a digital watermark to an image, the method comprising: [the steps of]

dividing said image into areas, the image in the areas having tonal values limited to [each of which have a tonal value within a] pre-established [range] different ranges corresponding to the areas, [each range] the ranges being able to carry a watermark of [a particular intensity] associated intensities without creating a visual artifact, and

applying a digital watermark to said image, the intensity of said digital watermark in [each area] the areas being set to the particular intensity associated with said [area] areas.

8) (Currently amended) A method of watermarking a half tone [mage] image comprising: [the steps of]

converting said half tone image into a line art image,

filtering said line art image to create a series of masks defining areas of said half tone image having tonal density within a specified range,

each range of tonal densities having [an appropriate] a corresponding watermark intensity, and

watermarking said [halftone] half tone image, the intensity of the watermark in each area being set to said [appropriate] corresponding intensity.

9) (Currently amended) [The] A method of watermarking a digital line art image comprising: [the steps of]

determining areas of said image having lines within specified size ranges,

generating a watermark tile which will carry watermark data, and

applying a digital watermark to said image in multiple [areas] tiles each of which is the size of said watermark tile, [the] intensity of said digital watermark in each area being established at a value determined by said watermark tile and said specified size range of lines so as to increase energy of the watermark for a desired level of visual artifact in the image.

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[said watermark.]

10) (Currently amended) The method of watermarking a line art image, the method comprising:
[the steps of]

     determining areas of said image having lines within specified size ranges, and

    applying a digital watermark to said image, [the] intensity of said digital watermark in each area being established at a selected value corresponding to the specified size range to achieve desired energy of the watermark and level of artifacts in the image.

11) (Original) The method recited in claim 10 wherein said watermark is applied by modulating the width of said lines.

12) (Original) The method recited in claim 10 wherein said determining step is performed by filtering said image.

13) (Currently amended) The method recited in claim 1 wherein said image is a line art image and said [characteristic] tonal density of areas of said image is [the] based on size of the lines in said image.

14) Canceled

15) (Currently amended) The method recited in claim 1 wherein said image [consists of] comprises a series of lines and wherein said [characteristic] tonal density is based on [is the] width of said lines, and wherein said secondary control value [is] comprises the intensity of said watermark.

16) (Original) The method recited in claim 15 wherein said image is watermarked by line width modulation.

17) (Currently amended) A system for watermarking a digital image to embed a watermark specified by a watermark multi-bit payload tile, said image formed by an array of bits, said array of bits covering a plurality of payload tile sized areas, said system including:

        means for dividing said image into secondary control areas, each secondary control area covering a portion of said image where a tonal characteristic of said image falls within a particular range, each secondary control area having an associated secondary control value, and

        means for changing the value of the bits in each payload tile sized area of said image based upon both the value of the corresponding bit in said payload tile and the value of the secondary control value associated with the secondary control area in which the bit resides, the secondary control value comprising an intensity associated with the tonal characteristic of the corresponding secondary control area.

18) (New) The method of claim 1 wherein watermark intensity is selected to maximize energy of a watermark while maintaining a desired avoidance of visual artifacts for the corresponding range of tonal density.

19) (New) The method of claim 8 wherein the intensity is selected to maximize energy of a watermark for a desired avoidance of visual artifact for the corresponding range of tonal density.